

## **ONE-BY-N OPTICAL SWITCH**

### **ABSTRACT OF THE DISCLOSURE**

5           An all-optical one-by-N optical switch is provided that has fewer components, is easier to control and has fewer optical losses than prior art one-by-N optical switches. An optical switch of the present invention includes an active deflection element formed from an electro-optical material to deflect an optical input from a single input to a selected one of N outputs. In one embodiment of the present invention, a single active deflection element at the input deflects an  
10   optical signal across a waveguide that commonly connects the N outputs. The N optical outputs include passive optical elements that are aligned with the deflected optical signal to accept a signal and provide it to a selected optical output. The optical switch can either be monolithic, where the optical materials are all electro-optical materials, or can be hybrid, having separately formed components, such as the common waveguide, adhered to the substrate on which the  
15   optical switch is formed.